SYSTEM OPERATIONAL REQUEST: #2002-08

The following State, Federal, and Tribal Salmon Managers have participated in the preparation and support this SOR: U.S. Fish & Wildlife Service, National Marine Fisheries Service, Idaho Department of Fish and Game, Columbia River Inter Tribal Fish Commission and the Oregon Department of Fish and Wildlife.

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FROM: **David A. Wills, Chairperson, Salmon Managers**

DATE: **October 30, 2002**

SUBJECT: Tailwater elevation at Bonneville Dam to protect natural spawning of chum and fall chinook salmon at the Ives/Pierce Island Complex and the I-205 seeps.

SPECIFICATIONS: As required by the 2000 NMFS Biological Opinion, beginning November 1 and continuing until further notice, provide a minimum instantaneous tailrace elevation of 11.5 feet at Bonneville Dam. On average it is anticipated that daily average flows will not exceed 125 Kcfs.

JUSTIFICATION: The Ives/Pierce Islands Complex below Bonneville Dam represents a limited natural spawning area for ESA listed Columbia River (CR) chum and Lower Columbia River chinook. The NMFS 2000 Biological Opinion (BiOp) recognizes that access to spawning habitat in the Ives/Pierce area is primarily a function of the water surface elevation. More so, the BiOp recognizes that managing water levels to a tail water gage height rather than a flow level may be preferable. Current (October 30th, 2002) SSARR modeling indicates that at least 125 Kcfs of water will be available at Bonneville starting early November 2002, providing ample water to maintain the 11.5-foot tailwater gage height.

Over the last ten days the flow below Bonneville has varied between 77 and 121 Kcfs, with tailwater elevations fluctuating between 7 and 11 feet. These variable flows and tailwater elevations are not adequate to provide spawning area for chum salmon at the Ives/Pierce Islands Complex and the I-205 seeps, or to provide access to both Hardy and Hamilton creeks. The provision of a minimum 11.5-foot tailwater elevation at Bonneville Dam will provide access to a limited area of mainstem spawning habitat for chum salmon and allow unrestricted access to Hardy and Hamilton creeks. Historic data (**Figure 1**) suggests that chum salmon will begin

staging and spawning in the area around the first of November. In addition, LRB fall chinook are already present in the vicinity of the Ives/Pierce Island Complex, and based on data collected 1998-99 (**Figure 2**) have already begun to spawn in significant numbers with peak counts expected in early November. Increasing tailwater elevation will allow chinook access to some preferred shallow-water habitat in the island area.

The provision of flow to facilitate spawning in the shallow water habitat and tributaries will benefit the chum population by: 1) allowing access to habitat, 2) providing stable spawning conditions, 3) extending the timeframe over which spawning occurs, and 4) protecting life history diversity of early spawning fish. This risk adverse approach recognizes that adequate chum flows can be provided without significant impacts on other fish and power operations. Based on research collected to date, the island areas and tributaries provide suitable spawning habitat for chum. Unlike chinook, chum cannot spawn in the high velocity large cobble substrate of the mainstem. The delay of providing spawning flows poses an unnecessary risk to this population that number less than 1% of their historic abundance. The opportunity for enhancing natural spawning areas and production in the mainstem Columbia system is extremely limited and should be given high priority for protection and enhancement.

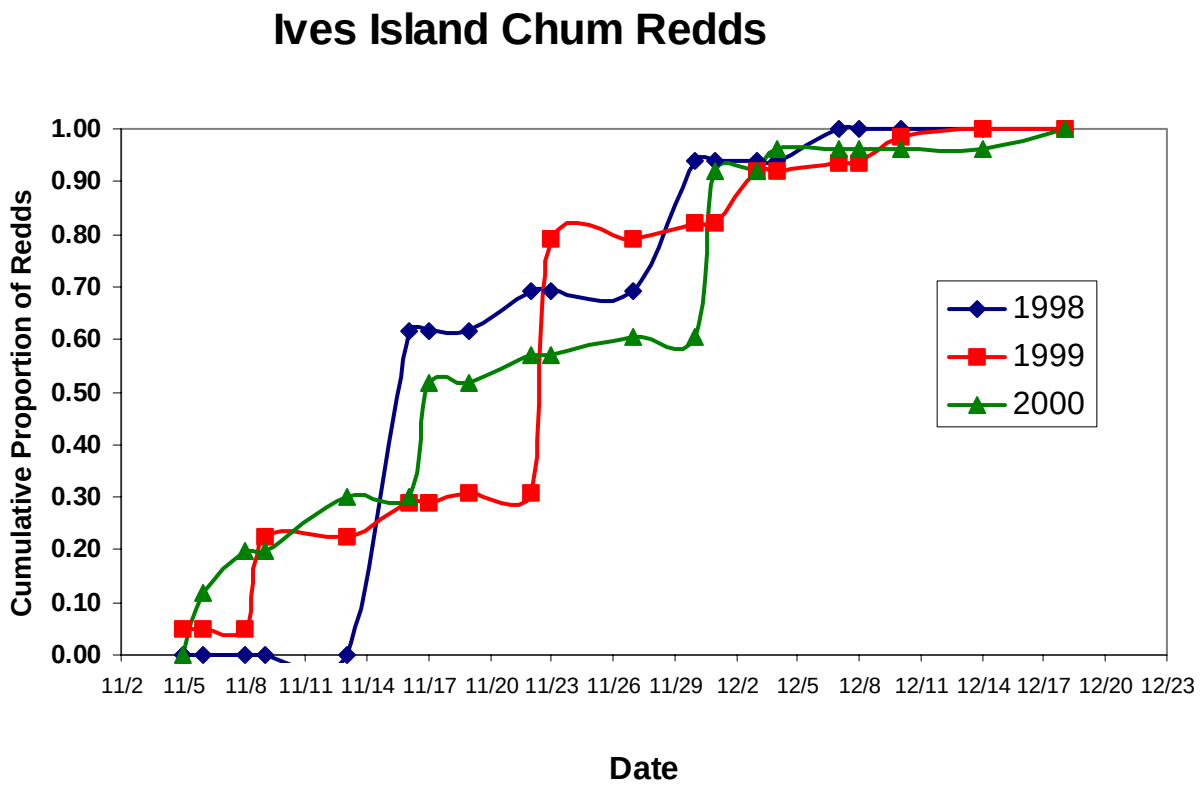

Figure 1. Chum redd counts.

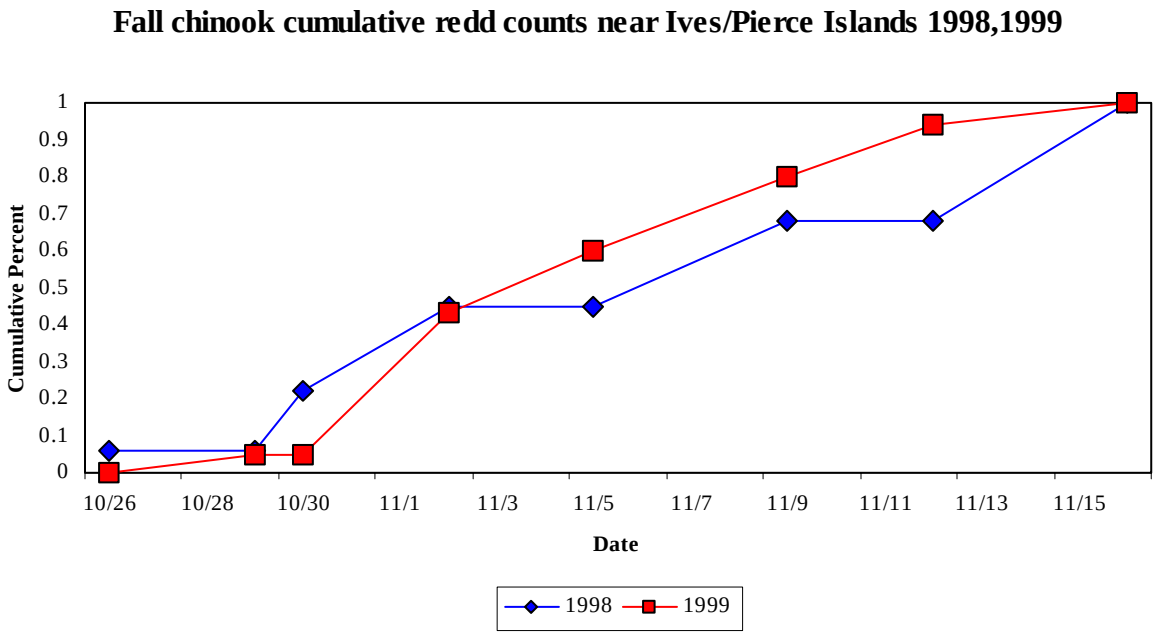

Figure 2. Fall chinook redd counts.